Government College for Women(A),Guntur.

COURSE INFORMATION BOOKLET

2023-2024

DEPARTMENT OF HOME SCIENCE

CONTENTS

Vision and Mission of the Department

Vision

Food, shelter and clothing are fundamental for human survival. Studying in depth about these basic human needs for qualitative life is the ultimate objective of Home Science education. It conceptualizes the student's knowledge and skill right from where the human life starts, how it grows, develops and expands with physical, physiological, psychological, social and economic dimensions through different courses.

Mission

1. Strengthening the skills and potentials of students through scientific principles, knowledge and experience acquired for optimum living
2. Fostering the development of students towards innovative research to augment the quality of life of family, community and industry in the challenging life scenario
3. Inculcating appreciation towards offering services to the needy
4. Developing managerial & entrepreneurial skills at various levels by exposing them to contemporary educational challenges for improving the quality of education and better employability.

Program Specific outcomes of B.Sc. Home Science

1. Acquaint with wide spectrum of knowledge in various areas related to health, nutrition, extension, child development and textiles and resource management (L1 &L2)
2. Analyze and distinguish the underlying causes of different disease conditions by apply the scientific principles, knowledge and experience acquired in classroom applied in the real life situations in a comprehensive manner (L3&L4)
3. Design and implement various programmes for the wellbeing of the vulnerable sections with the aid of appropriate communication approaches (L6)
4. Build capacities by imparting professional and entrepreneurial skills in the fields of textiles, dyeing, retailing, and value addition of food products to become self reliant (L6)
5. Demonstrate interest in engaging in active need based, innovative and community-oriented research using appropriate methods, collect and process data and present evidence-based solutions and defend arguments related to the field of research in Home Science(L3,L4&L5)

PS'O s of Nutrition and Dietetics

- To cultivate a comprehensive understanding of the interconnected domains of food, health and nutrition among the students to effectively address contemporary national demands. (L1 &L2)
- To establish a robust foundation in clinical and therapeutic nutrition, enabling students to apply conceptual and analytical skills in the healthcare sector. (L3&L4)
- Apply analytical principles related to food and nutrients in the context of food safety, security and public health strategies (L3&L4)
- Analyze the specific components in food such as nutrients, enzymes, chemicals and there role in metabolism (L3 & L4)
- To develop managerial expertise and competencies aimed at fostering entrepreneurship and leadership in the field of healthcare centers and food processing industries. (L4, L5&L6)

List of Programmes offered by the Department

S. No	Title of the programme
1	B.Sc Honours in Home Science
2	B.Sc. Honours Nutrition And Dietetics
3	B.Sc. Home Science (Clinical Nutrition &Dietitics)

B.Sc Home Science course structure (Three major system)

Semester	Paper	Title of the course	Course code
I	1	Basic Nutrition	I-HS410-1
	2	Human Physiology	I-HS410-2
	3	Food Microbology	I-HS410-3
II	4	Food Science	II-HS410-4
	5	Fundamentals of Family Nutrition	II-HS410-5
	6	Growth & Development during life span	II-HS410-6
Community Service Project			
III	7	Nutritional Biochemistry	III-HS410-7
	8	Housing and Interior Decoration	III-HS410-8
	9	Extension Education for Rural Development	III-HS410-9
IV	10	Diet Therapy	IV-HS410-10
	11	Diet Counselling	IV-HS410-11
	12	Community Nutrition	IV-HS410-12
	13	Food Preservation	IV-HS410-13
	14	Diffusion and Adoption	IV-HS410-14
	15	Textiles Science	IV-HS410-15
Short term internship			
V	16A	Bakery & confectionary	V-HS410-16A
	17A	Training and HRD	V-HS410-17A
	18B	Early Childhood Care & Education	V-HS410-18B
	19B	General Psychology and Counselling	V-HS410-19B
	20C	Tie & Dye	V-HS410-20C
	21C	Retail Marketing & merchandising	V-HS410-21C
VI		Semester end Internship	

B.Sc.,Honours Home science And B.Sc, Honours Nutrition & Dietetics course structure: (Single major system)

Year	Semester	Course number	Title of the course of B.Sc Honours in Home Science	Course code
I	I	1	Introduction to Home Science	1HSC-CM-01
		2	Health, Hygiene & Wellness	1HSC-CM-02
	II	3	Basic Nutrition	2HSC-CM-03
		4	Human Development	2HSC-CM-04
	Community Service project			

Year	Semester	Course number	Title of the course of B.Sc. Honours Nutrition And Dietetics	Course code
I	I	1	Introduction To Food Science & Nutrition	1N&D -01
		2	Health, Hygiene & Wellness	1N&D -02
	II	3	Food science	2N&D-03
		4	Food microbiology	2N&D -04
	Community Service project			

Course wise Syllabus with Outcomes

Single Major System

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR
DEPARTMENT OF HOME SCIENCE
SEMESTER-I
SYLLABUS
COURSE TITLE: INTRODUCTION TO HOMESCIENCE

Course code: IHSC-CM01 **Subject Code: 1HSC-CM-01**

Learning outcomes

By the end of the course the student will able to

- CO-1: Understand the concept, scope, and philosophy of Home Science.
- CO-2: CreateawarenessregardingvariousappliedandcorespecializationsofHomeScience
- CO-3: Appreciate the role of Home Science and its multidisciplinary approach in career building and its recent developments in core specializations of the Home science.
- CO-4: Cultivate human values through learning Home Science.

S.No.	Unit	Content	Hours
1.	Basics of Home Science	• Meaning, Definition • Basic terms on career, vocation, wage employment, Self- employment and entrepreneurship • Importance of Home science • Branches/Areas of Home Science • Philosophy of Home science • Development of Home Science as a discipline in India • Home Science Association of India (HSAI)and activities in promoting Home Science • Linkages of Home Science with other related subjects	15
2.	Branches of Home Science	**Human Development** • Meaning and Definition • Scope of Human Development. • Developmental Stages of growth and development • Developmental tasks/milestones • Patterns of Growth and development in the early childhood • Factors affecting growth and development • Areas of child development **Food and Nutrition** • Definition and Importance • Functions of Food • Concept of Nutrition • Basic terms	15

		Nutrients and their types, Food Groups, Balanced Diet, Food Guide, Food Pyramid, My plate concept, Meal planning, Nutritional status- Nutritional assessment among the children(in brief),BMI and classification. Foods based on storage life- perishable and non - perishable foods selection, purchase and storage of foods, classification and food spoilage	
3.	Branches of Home Science contd..	**Textiles and Clothing** • Origin, Importance • Functions of Clothing • Introduction to textile terms-fiber, yarn, textile, weaving, knitting • Classification of textile fibers • Natural and man made • Fabric construction techniques **Extension Education and Communication** • Concept • Nature • Scope • Principles of Extension and communication. • Methods and media of community outreach- Communication approaches – Individual , Group, mass and classification and its advantages • Origin of extension • Early efforts of extension- Pre &post-independence programmes • Role of home science extension in transfer of technology **Resource management & Interior Design** • Concept and scope • Types of family resources - Human and non-human resources, characteristics of resources, Factors affecting use of resources • Management in the family – meaning and definition of home management, management process in brief, • work simplification techniques- Process chart, operation chart and memomotion • Types of family income- real, psychic and total • Importance of housing and function: housing • Interior design-elements of art	15

4.	Research in Home Science	Recent developments in the areas of • Foods & Nutrition, • Human Development & Family Studies, • Textiles & Clothing, • Resource Management &Interior Design • Extension Education &Community Development.	15
5.	Careers & Entrepreneurship in Home Science	Scope of careers and entrepreneurship in 1.Foods & Nutrition – In hospitals, health centers, food industry 2. Human Development-welfare programs of Government/NGOs, preschools entrepreneurmakingteaching aids. 3.Textiles & Clothing- in textile industry, boutiques, research labs 4. Resource Management- construction sector (CAD assistants, interior designer), creative crafts entrepreneur 5. Extension education- extension projects of Government/NGOs, entrepreneur making teaching **aids.**	15
Total Hours			**75**

References

1. R P Singh (2000) Management of Training Programmes .Anmol Publications Pvt Ltd. New Delhi

2. J.M.Dewan (1999) Management of Manpower Training a Development. Discovery publishing house, New Delhi

3. T.V.Rao (1996) Human Resource Development Experiences. Interventions Strategies, Sage publications India Pot Ltd. New Delhi

4. P. Lyton, UdaiPareek (2000) Training for Agricultural Transformation.Sage publications India Pvt Ltd, New Delhi.

SEMESTER-I
SYLLABUS
COURSE TITLE: HEALTH, HYGIENE & WELLNESS

Course Code: 1 HSC-CM-02 **Subject Code: 1HSC-CM-02**

Learning outcomes

By the end of the course the student will able to

- CO-1To understand the concept of health and wellness
- CO-2 To analyze the structure, growth and reproduction in various microorganism
- CO-3 To identify various diseases caused by microorganisms and the preventive methods to control the diseases
- CO-4 To recognize the role of yoga and meditation in the management of health and wellness

S.no	Unit	Content	Hours
1	Health & wellness	• Health & wellness – Definition , operational definition, • Concept of • New philosophy of health • Dimension of health - Physical, Social, Emotional, Intellectual, and Spiritual. • Concept and components of wellbeing • Definition or concept of Human Development Index • Factors or determinants ofHealth • Indicators of health- concept of Mortality, Morbidity, Disability	12
2	Classification & Study of Microorganisms	• Classification & Study of Microorganisms- in terms of morphology, Nutrition and Reproduction • Bacteria • Fungi- Mould – black mould structure, nutrition & reproduction • Yeast • Algae – chlamydomonos structure and reproduction • Virus – structure, nutrition and reproduction • Beneficial Applications of Microorganisms in different areas- Food Industry, Agriculture, medicine .	12
3	Mode of infection	• **Terms(only for internal exam):** Infection, Contamination, Infestation, Host, Infectious disease, contagious disease, Communicable disease, Epidemic, Endemic, Sporadic, Pandemic, Exotic & Zoo noses • Infection- sources, • Mode of transmission- direct & indirect • Diseases caused by microorganisms-	12

		Symptoms, etiology, mode of transmission of ➢ Bacterial diseases- Typhoid, Tuberculosis, ➢ Viral Diseases: Influenza &AIDS ➢ Parasite transmitted diseases- Malaria &Dengue	
4	Prevention & Control	• Control of Micro-organisms – Sanitation, Sterilization – dry and wet methods • Disinfection- chemical method. • Immunity- definition & • Types of Immunity- 1. Innate Immunity or Natural or Non-specific Immunity – barriers -Physical, Physiological, cellular and cytokine barrier 2. Acquired Immunity or Adaptive Immunity- a. Active immunity: Natural & artificial B. Passive - Natural & artificial • Immunization schedule • Hygiene - Meaning and importance of personal hygiene • Standard precautions to prevent infections	14
5	Management of Health & Wellness	• Modern lifestyle and hypo-kinetic diseases; prevention and management through Physical exercise • Stress, anxiety, and depression- Definition and concept • Role of Yoga, asanas and meditation in maintaining health and wellness. • Role of sleep-in maintenance of physical and mental health.	15
	Co-curricular activities	Assignments, seminars, quizzes	5
	Total		75

References:

1. Frazier, W. Candwestnoff, D.C (1997) Food Microbiology, Tata McGraw Hill
2. A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India
3. Anna k. Joshua, Microbiology, popular book depot, Madras
4. R. Ananthanarayanan, C.K.J. Paniker, 2001, Orient Longman Private Limited.
5. General Microbiology , 1982, power &Daginawala, Himalaya Publishing House
6. Stanier R. Y., Adelberg, E.A. and Ingraham, J.L. (1989) General Microbiology.
7. Atlas R. M. (1988) Microbiology, fundamentals and application. Micmillon N. Y

SEMESTER-II
SYLLABUS

Course Title: Basic Nutrition **Course Code: 1HSC-CM-03**
Subject Code: H406
Learning outcomes
By the end of the course the student will able to

CO-1 Know the role of water and acid base balance to maintain the body homeostasis
CO-2 Understand the composition and classification of macro nutrients based on their functions
CO-3 Compare and contrast the role of fat and water soluble vitamins in terms of functions and food sources and deficiencies
CO-4 Identify the deficiencies of various vitamins and minerals by assessing their clinical symptoms

Unit No.	Unit	Content	Hours
1.	Water & Acid base balance	• Definitions of • Nutrition • Nutrients • Functions, • Distribution of water • Sources – intake & output of water • water balance mechanism • Important body electrolytes – functions • Absorption, metabolism and storage of water • Water imbalances • Acid base balance	5
2.	Macronutrients		
a.	Carbohydrates	• Composition • Classification • Functions • Food sources • Digestion and absorption	4
b.	Fats and oils	• Composition • Classification fats & fatty acids • Functions • Fats in the body • Fats in foods • Food sources • Digestion and absorption	3
c.	Proteins	• Composition • Classification • Functions • Food sources • Amino acid nutritional classification • Biological value • Digestion and absorption • Protein deficiencies	4

3.	Energy	• Definition • Energy units • Functions • Determination of energy value of foods- Direct caloriemetry- bomb calorimeter • Total energy requirements – BMR, Physical activity & SDA • Food sources • Requirements	6
	Micronutrients		
4.	Vitamins	• Classification – fat and water soluble • Functions, sources, requirement & deficiency of following vitamins • Vitamin – A, D, E & K • Water soluble – B1, B2, B3, Pantothenic acid, B6, B12, Folic acid, &Vitamin C	10
5.	Minerals	• Functions, sources, requirement deficiency of following • Calcium, Phosphorus, Iron, Sodium, Iodine, Fluorine, Potassium, & Zinc	8
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		**45**

References

- Bamji, M. S, Prahlad Rao.N& Vinodini reddy, 2003, Text book of Human Nutrition, Oxford & IBH Publishing Co. PVT. LTD, New Delhi p-p 105-107.
- Gordon Wardlaw Gordon M. &Insel Paul M., 1992, Contemporary Nutrition, Mosby year Book, Boston p-p 304-305.
- Robert E.C. Wildman, Denis M. Medeiros – Advanced Human Nutrition, 2000, CRC Press, Boca Raton p-p 238-243.
- Swaminathan, M. 1997, Essentials of Food and Nutrition, vol I Second edition, BAPPCO, Bangalore.p-p 383-385.
- B. Srilakshmi - Nutrition Science , New Age International Publishers, fourth edition

SEMESTER-II
SYLLABUS
COURSE TITLE: HUMAN DEVELOPMENT

Course code: 2 HSC-CM-04 **Subject Code: HS407**

Learning outcomes

By the end of the course the student will able to

- CO-1: Describe the major developmental stages, developmental tasks in the human life span, and developments in all the areas i.e., Physical, Language, social, emotional and cognitive development
- CO-2: Analyze the role of pre-natal and post natal development and their effects on individuals growth and development
- CO-3: Discovering characteristic behaviours of child at infancy, early childhood, late childhood and adolescence and adulthood and
- CO-4:Identify the developmental delays in any stage of development and to apply the knowledge in the real world contexts as an early intervention strategy for prevention of disabilities.

S.No.	Unit	Content	Hours
1.	Introduction to Growth and Development	Concept & importance, need & scope History Objectives and areas of child development Relationship of child development with other disciplines Principles of growth and Development Factors influencing growth and development Developmental stages during lifespan Developmental tasks during life span	**8**
2.	Pre-natal and Early Years of Development	**Prenatal development** Parturition **Signs & symptoms during pregnancy** Conception, fertilization **Complications of fertilization**-ectopic pregnancy, multiple pregnancies Stages of prenatal development- period of ovum, embryo and fetus **Common physical hazards during prenatal period-** period of ovum: starvation, lack of uterine preparation, implantation in the wrong place period of embryo: miscarriages, developmental irregularities, Period of fetus: Pre-maturity, complications of delivery. **Effects of unfavorable maternal conditions on prenatal development** –maternal stress, drugs, radiation, smoking, diseases, accidents, deficiencies, maternal age **Care during pregnancy**- nutritional, health care, exercise & mental health	**10**

		HDI- IMR, MMR, CMR- reasons, prevalence, strategies **Stages in birth process**, **Types of deliveries**-normal, caesarian, breech, transverse presentation, forceps , complications **Birth defects/congenital abnormalities in children**	
3.	Development during infancy, babyhood Early childhood years	**Postnatal care of new born baby & nursing mother** Neonate- APGAR test **Physical appearance or characteristics' of new born** Premature child- definition, characteristics, causes, care **Care of new born-** physical care, health care **Reflex and types of reflexes** **Infancy (0-2yrs)** Physical development & Motor development-gross and fine motor skills Language development, Social development Emotional development Cognitive development Developmental milestones Developmental delays **Early childhood years (3- 6years)** **Importance and Characteristics of preschool years** Physical and motor development Cognitive, language, Socio emotional developments during pre-school years	10
4.	Development during late childhood years & Puberty	**Late childhood years (6-12 years)** Concept & General Characteristics Physical and motor development Cognitive development, emotional development, moral development Social development: functions of peer group socialization process during late childhood period, Socio emotional development during late childhood Process of socialization and agents of socialization Parent styles & their impact on child's personality Concept of puberty Physical, physiological, psychological changes during puberty Pubertal changes and their effects on adolescent personality	8

5.	Development during Adolescence & Adulthood	**Adolescence** Characteristics, Transitions during adolescence cognitive development, social development, emotional development Family relationships during adolescence and moral development. Identity development, Identity crisis Early adulthood- characteristics, cognitive changes, socio-emotional development Middle adulthood- characteristics, physical changes, socio- emotional development Late adulthood- characteristics, physical development	9
Total Hours			**45**

References

1. Grace.J.Craig, 1976, Human Development, Prentice Hall INC, New Jersy, p-p 1-3.

2. Papalia D.E and Old S.W. 1978, Human Development, McGrawHillInc, London p-p 3-5.

3. Kaluger, George and Kaluger, Merriam Fair (1979).“Human Development: The span of life”, C.V Mosby Company, New York.

4. R.P. Devadas &N. Jaya, 1984, “A text book on Child Development”, Macmillan India Ltd, Madras.

SEMESTER-III
SYLLABUS
Course Title: Nutritional Biochemistry

Subject Code: HSC410 **Course III-HS410-7**

Learning Outcomes

By the end o f the course the students must be able to

- CO-1 Understand the chemical characteristics of nutrients with reference to their properties and functions in the body.
- CO-2 Comprehend and illustrate pathways of nutrient metabolism and biosynthesis of nutrients
- CO-3 Determine the significance, consequences and integration of nutrients and analyse the relationship between the effects of nutrients on metabolism
- CO-4 Acquire skills on qualitative tests and quantitative estimation of nutrients and energetics of nutrients

S.No		Content	Hours
1	Carbohydrates	• Chemical properties of carbohydrates and classification of carbohydrates • Structural aspects of Monosaccharides – Isomerism, stereo, epimers and optical isomerism • Disaccharides structure-Maltose, Lactose and Sucrose • Ploysaccharide-Starch • Open chain & ring structures of Mono saccharides	12
2	Metabolism of carbohydrates	• Introduction to metabolism • Catabolism and anabolism • Major path ways of carbohydrates metabolism ▪ Glycolysis, citric acid cycle, HMP ▪ Gluconeogenesis & glycogenesis • Role of liver in carbohydrate metabolism • Role of insulin in controlling blood sugar levels	14
3	Lipids	• Classification, properties, functions • Fatty acid biosynthesis and oxidation of fatty acids • Bio synthesis of cholesterol, structure of Cholesterol, triacylglycerides and phospholipids	16
4	Nucleic acids Proteins	• Nucleotides –purines &pyramidines • Synthesis of purines & Synthesis of Pyramidines • Structure of DNA & RNA • General structure of amino acid and	8

		classification • Structure of proteins-primary, secondary, tertiary and quarternary • Protein synthesis, deamination, transamination and urea cycle	
5.	Enzymes Co enzymes Synthesis of ATP	• Classification of enzymes • Definitions of active cite, apoenzyme Co-enzyme units & enzyme specificity • Mechanism of enzyme action • Inhibitors-competitive , non-competitive • B- vitamins acting as coenzymes in the metabolism of carbohydrates, proteins and fats Synthesis of ATP through electron transport chain	5
	Co curricular activities	Project/ writing paper	5
Total Hours			**60**

References

1. Shanmugham Ambika – Fundamentals of bio-chemistry to medical students. NVA Bharat Printers, and traders 56, Peters Road, Madras-86. 1985.
2. Rama Rao A.V.S.S. 1990 – Text book of biochemistry. 5th edition, L K and Publishers, Visakhapatnam.
3. William P.J., An introduction to biochemistry, Nostrand Co., Inc. London 1972.

SEMESTER-III

SYLLABUS

COURSE TITLE: HOUSING AND INTERIOR DECORATION

SUBJECT CODE: HSC410 **COURSE CODE: III-HS410-8**

Learning outcomes

By the end of the course the student will able to

- CO-1 Understands housing needs in different stages of family life cycle & factors influencing the selection of site
- CO-2 To impart knowledge on principles of planning and & factors to be considered while planning different rooms.
- CO-3 Applying ergonomics principles based on body mechanics for work simplification
- CO-4 Choose different colour harmonies to decorate interiors and in arrangement of furniture,accessories based on art elements and principles

S.No.	Unit	Content	Hours
1.	House and space management	• Importance of Housing and types of houses • Functions of a house – Its influence on health and family living. • Housing needs in different stages of family lifecycle and economic levels. • Selection of site- Importance, Factors influencing the selection of site	7
2.	Building Plan for Family Living	• Principles of Planning and importance of planning space • Orientation – importance, definitions –Aspect, Prospect, Privacy, Grouping, Roominess, Flexibility, Circulation, Sanitation, Light, Ventilation, Stuffiness, Cleanliness • Factors to be considered while planning different rooms • Designing Circulation Spaces -Staircase, Elevator / Lift, Hallways / Corridors, Driveways and Walkways	13
3.	Ergonomics in Planning for family life space	• Ergonomics - Meaning and Significance, aspects of ergonomics • Application of ergonomic principles in planning life space-Factors and practical consideration • Tools & techniques of ergonomics • Body mechanics-principles • Forms of fatigue- physiological , psychological, boredom , frustration • work simplification—definition and principles • Designing Service Space – Kitchen, Planning for efficient Kitchen, Kitchen layout • Planning for efficient work centers and storage areas in the kitchen, bathroom, laundry and	10

		other areas of the house.	
4.	Interior Decoration	• Meaning and importance of interior decoration. • Design-types of classification. • Art elements of design-line, form, colour, texture. Pattern, color, light & space • Art principles-harmony, balance, rhythm, emphasis and proportion. • Colour – wheel and combinations • Principle for table setting	13
5.	Accessories -types and functions Furniture Flower arrangement	• Decorative & functional accessories • Furnishings – types • Electrical fittings and fixtures, • Lighting- types, fittings and fixtures • Fittings and fixtures – Bath, kitchen • Types of furniture • Selection and arrangement-factors to be considered • Fresh and dry Bonsai	12
	Co-curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		**60**

References

1. Julius Panero and Martin Zelink, (1979), Human Dimensions and Interior Space, 1st edition, Watson –Guptil Publications, Newyork, pp 23,131-163
2. M.N. Jogelekar and Neelkamal Sharma, Housing Architectural Details, Hudco publication, New Delhi.
3. Art in Everyday Life - Harriet Goldstein Mac Millan Co. New York.
4. Colour Trends- Vol. I, Ethnic, Japanese, High- Tech Colors, AIM Creative Products Pvt. Ltd.
5. Colour- A guide to basic facts and concepts, John Wiley & Sons, New York.
6. R.S. Bridger, Introduction to ergonomics
7. Stephen pheasant - Body space
8. Mahalakshmi V. Reddy- Housing & Space Management

SEMESTER-III
SYLLABUS

Course Title: Extension Education for Rural Development
Subject Code: HS410 **Course Code:III-HS410-9**
Learning outcomes

By the end of the course the student will able to

- Co-1 Understand The Principles, Philosophy And Objectives Of Extension Education
- Co-2 Demonstrate Various Extension Methods Applicable To Approach Different Sections Of Community
- Co-3 Application Of Various Audio Visual Aids For Effective Planning And Implementation Of Different Rural Development Programmes
- Co-4 Analyze Different Types Of Leaders By Understanding The Concept, Qualities And Role Of Leadership

S.No.	Unit	Content	Hours
1.	Extension education concept and Role of Home Science in national development	• Origin • Need and importance • Concept • Principles & Philosophy • Objectives • Types of Education • Formal • Non-formal • Informal • Difference between formal and extension education • Home Science Meaning & definition • Broad objective of Home Science • Areas of Home Science • Role of Home Science extension • Pre independence - Gurgaon Experiment, Gandhian Constructive Programme, Rural Reconstruction, Marthandam,Firka Development Programme, • Post independence- Nilokheri Experiment, Grow More, Food Campaign, Etawah Pilot Project, Indian VillageService • Community Development and National Extension Scheme • Panchayat Raj Institution	15
2	Extension methods/ teaching methods	• Definition • Classification of methods & objectives, advantages and limitations of each method • Individual methods ▪ Farm and home ▪ Office call and ▪ Personal letter	10

		▪ Minikit trial ▪ Result Demonstration • Group methods ▪ Method demonstration ▪ Group discussions ▪ Panel ▪ Symposium ▪ Debate ▪ Workshop ▪ Seminar ▪ Conference • Mass methods ▪ Campaign ▪ Exhibition • Leaflet • Folder and pamphlet • Bulletin • Banner • Circular letter • Factors to be considered in selection of extension methods	
3	Audio – Visual aids	• Meaning • Importance • Advantages • Factors influencing in selection • Classification of Audio-Visual aids • Cone of Experience • Audio aids ▪ Radio ▪ Public address system • Visual aids • Non Projected Visual aids ▪ Black Board ▪ Bulletin Board ▪ Poster ▪ Chart ▪ Flannel graph & Flash cards • Projected Visual Aids ▪ Slide projector ▪ Slides ▪ Film strip ▪ OHP • Audio visual aids ▪ T.V. ▪ Motion picture ▪ Video • Three Dimensional ▪ Models & specimens • Teaching with technology ▪ Tools ▪ PPT21	10

		▪ e-pen, visualize,white board	
4	Leadership	• Definition • Whyte classification of leaders ▪ Operational ▪ Popularity ▪ Assumed representative ▪ Prominent talent • Types of leaders ▪ Professional & Lay leaders ▪ Authoritarian or Autocratic leaders ▪ Democratic leaders ▪ Laissezfaire leaders • Roles, Qualities and Selection of leaders	8
5	Extension programme planning & Developmental programmes	• Definition • Steps in programme planning • Implementation • Evaluation • Integrated Child Development Services • Swarnjayanti Gram Swarozgar Yojana • MNREGP • Bharat nirman • Agricultural Technology Management Agency(ATMA) • ICAR • SAUs • KVK • NGO ‘s	12
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		**60**

References

1. Adivi Reddy.A, Extension Education, Seventh Edition, Sri Lakshmi press, Bapatla
2. Sumita Roy, Tej Verma and Pushpa Gupta 2006 Textbook on Family Approach in Extension Programme Management Directorate of Information and Publications of Agriculture Indian Council of Agricultural Research New Delhi.
3. Ray, G.L., 1996, Extension Communication and Management, Naya Prakash Publications, Calcutta

SEMESTER-IV
SYLLABUS

Course Title: Diet Therapy **Course Code: HS410-10**
Subject Code: 410
Learning outcomes

By the end of the course the student will able to

- Co-1 Understand The General Principles And Concepts In Diet Therapy
- Co-2 Investigate The Disease Based On The Symptoms And Underling Causes
- Co-3 Recommend Disease Specific Dietary Management Based On Dietary Guidelines And Principles
- Co-4 Plan Prepare And Calculate Diet Plans Based On Type Of The Disease

S.No.	Units	Content	Hours
1.	Introduction to diet therapy, modes of feeding & Inborn errors	• Concept, principles, objectives, factors of diet therapy • Classification of hospital diets • Therapeutic adaptation of normal diets • Modes of feeding • Oral feeding • Enteral feeding • Parenteral feeding & TPN ▪ Pre-&post-operative nutrition ▪ Life style diseases – obesity, diabetes mellitus,etc..,	8
2.	Gastrointestinal tract diseases	Causes, Symptoms & Dietary management • Gastritis • Ulcer – peptic ulcers • Constipation • Diarrhea • Irritable bowel syndrome • Sprue & Celiac disease	12
3.	Liver diseases	• Types, causes, symptoms and dietary management of following diseases • Jaundice, hepatitis, cirrhosis, hepatic coma, Cholecystitis, cholelithiasis	11
4.	Kidney Diseases	Causes, symptoms and dietary management of following • Nephritis • Nephrosis • Urinary calculi • Renal failure • Dialysis	13
5.	Cardio vascular diseases	• Types causes, symptoms and dietary management of following diseases • hypertension Atherosclerosis, myocardial infarction,& congestive heart failure	11
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5

References

1. Srilakshmi.B (1995), dietetics, new Age International (p) ltd Publishers, New Delhi
2. Davidson S.S and R. Passmore R. (1996). *Human Nutrition and Dietetics*. Third edition. (pp- 430-435). Baltimore. The Williams and Wilkins Company.
3. James H. Mayer. (1994). *Modern Nutrition in health and disease. (*pp 1029-1034). Eight edition, vol: 2, Lea &Febiger, London, pp 1029-1034.
4. Miguel A Gassull and Eduard cabre. (2005) *Clinical Nutrition*. Blackwell Publishing Company, UK pp 146-162.

SEMESTER- IV
SYLLABUS
COURSE TITLE: DIET COUNSELLING

SUBJECT CODE: HS408 **COURSE CODE: IV-HS410-11**

Learning outcomes

By the end of the course the student will able to

- Co-1 Understand The Concepts Of Dietetic Department, Role Of Dietitician, Diet Counselling Techniques &NCP
- Co-2 Investigate The Disease Based On The Symptoms And Underling Causes
- Co-3 Recommend Disease Specific Dietary Management Based On Dietary Guidelines And Principles
- Co-4 Plan And Prepare Diet Plans And Counsel The Client Based On Types Of Disease

1.	Introduction to diet counseling Nutritional care process	• Need and Importance of diet counseling • Scope of Diet counseling in medicine • Principles of hospital diets • Dietetics department : ▪ Structure, administration and function. ▪ Food service in hospital. • Role of Dietician ▪ Code, ethics, association ▪ Dietitian as a part of medical team and outreach services. ▪ Diet counseling techniques & Clinical information • Assessment of patients need • Diet counseling techniques • Patient education and follow up Case history, Assessment of patient profile-SGA, MUST • Communicational skills for dietician • Verbal and non-verbal • Steps in Nutritional Care process • Assessment • Diagnosis • Intervention • Monitoring and Evaluation • Medical record and Documentation Factors to be considered while counselling	15
2.	Diet therapy & counselling in febrile conditions&Kidney Diseases	• Fevers -Causes • Types- Typhoid, Tuberculosis, Jaundice • Dietary management • NCP • Do's and don'ts • Tips Diet counselling for kidney diseases • Nephritis • Nephrosis • Urinary calculi • Renal failure • Dialysis • Nutrition care plan of a sample case study of specific condition	9

3.	Diet therapy & counselling of metabolic disorders	• Diabetes milletus ▪ Types ▪ Causes ▪ Symptoms ▪ Glycemic index ▪ Complications ▪ Diagnostic tests ▪ Dietary management& NCP ▪ Tips • Obesity ▪ Types ▪ Causes ▪ Assessment ▪ Dietary management ▪ Tips ▪ Purpose for beriatric surgery ▪ Dietary management for beriatric surgery • Underweight • Definition • Causes • Assessment • Dietary management • Do's and don'ts • Tips • Nutrition care plan of a sample case study of specific condition	12
4.	Diet therapy & counselling for Cancers	• Risk factors • Types of cancer • Symptoms • Physiological changes • Dietary management • NCP • Diet counselling for heart diseases (only counselling) • Tips to prevent cancer • Nutrition care plan of a sample case study of specific condition	9
5.	Harmonal imbalances among women Organ transplant nutrition	Causes, symptoms and dietary management for the following: • PCOD • Menopause • Infertility • Nutritional care for fibroids and endometriosis Pre and post nutrition care for kidney, liver and heart transplant.	10
	Co-curricular activities	Project/ writing paper	5
	TOTAL		**60**

References

1. Bhavana Sabarwal. (1999). Nutrition and clinical care (pp- 39-55). New Delhi Commonwealth Publishers.
2. Sue Rodwell Williams. (1989). Nutrition and diet therapy. Sixth edition, Missouri, USA Times Minor/ Mosby College Publishing St. Lauis.
3. Jean-Fabien Zazzo. (2005). Clinical Nutrition. (pp 194-195). UK Blackwell Publishing Company.
4. Gianfranco Guarnieri, Roberta Situlin and Gabriele Toigo. (2005). Clinical Nutrition. (pp 146-162). UK, Blackwell Publishing Company.

SEMESTER-IV
SYLLABUS
Course Title: Community Nutrition

Subject Code: 410 **Course Code: HS410-12**

Learning outcomes

By the end of the course the student will able to

- Co-1 Creates Awareness On The Scope Of Community Nutrition & Explain The Factors Affecting Health & Nutrition Of Vulnerable Groups
- Co-2 Classify The Nutritional Assessment Methods
- Co-3 Identify The General Clinical Signs Related To Particular Deficiencies
- Co-4 Design & Implement Dietary Survey Methods In Community
- Co-5 Gain Knowledge On National & International Organisations Involved To Combat Malnutrition

.

S.No.	Unit	Content	Hours
1.	Introduction to Community nutrition Common nutritional problems Prevailing in our country	• Concept of Community ,Types of Community • Factors affecting health and nutritional status of the vulnerable groups and causes of malnutrition • PEM, Vit A deficiency, Anemia, Iodine, Flourosis	10
2.	Nutritional assessment methods Nutritional anthropometry	• Need and importance • Standards for reference • Techniques of measuring height, weight, BMI, head, chest and arm circumference, interpretation of these measurements; Use of growth chart • Soft tissues – fat & muscle	12
3.	Nutritional assessment methods- Clinical & biochemical tests	• Need & Importance • General signs- hair, face, eyes, skin, tongue, lips teeth, gums, glands • Identifying signs of PEM, Vit A, C, Iron, Iodine, floro toxicity • Laboratory tests	10
4.	Nutritional assessment methods- Diet survey Interpretation	• Need and importance • Methods of diet survey • Food balance sheet, Inventory method, Actual weighment method, weighment method, Food frequency Questionnaire, 24 hour recall method, food list method, chemical analysis, photographic method, telephonic survey, dietary score, diet history, food record method • Concept of consumption unit, Individual and total distribution of food in family,	13

		adequacy of diet in respect to RDA	
5.	International, national, regional agencies and organizations Adulteration	• Organizations-WHO,FAO,UNICEF, ICAR,ICMR,NIN,NFI,FNB, CFTRI,NNMB, Central Social welfare board • Nutritional intervention programmes to combat malnutrition- • Direct Nutrition programme- • Vit A prophylaxis programme, Iron prophylaxis programme, Universal Iodisation of salt • Indirect nutritional programme • ICDS- literacy, Mid day meal, • Immunization programme etc • Definition • Types, health hazards • Prevention and control- rules and regulations and adulteration acts viz.PFA, FSSAI, AGMARK • Public distribution system- fortification & fortified foods	10
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		60

References:

1.Srilakshmi.B (1995), dietetics, new Age International (p) ltd Publishers, New Delhi

2. SwaminathanM, essentials of Food and Nutrition, Vol II, BAPPCO, Banglore

3. ICMR (1990) Nutrient requirements and Recommended Dietary Allowance for Indians

SEMESTER-IV
SYLLABUS
COURSE TITLE: FOOD PRESERVATION

SUBJECT CODE: HSC410 **COURSE CODE: IV-HS410-13**

Learning outcomes

By the end of the course the student will able to

- Co-1 Identification Of Suitable Storage Conditions And Various Causes Of Food Spoilage .
- Co-2 Understand And Apply The Practical Knowledge On Various Preservative Techniques In Preparation Of Food Products
- Co-3 Acquire Basic Knowledge On Importance Of Food Preservation And Criteria For The Selection Of Fruits & Vegetables,
- Co-4 Compile And Compare The Information Of Food Packaging Hallmarks And Labelling Of Various Food Industries/ Products

S. No.	Unit	Content	Hours
1	Fundamentals of food preservation	• Definition, need and scope of food preservation, Aims and goals of food preservation, advantages of food preservation • General criteria for selection of fruits and vegetables	6
2	Food spoilage Storage of food	• Classification of food according to ease of spoilage • Microbial spoilage –Bacteria, Yeast &Moulds • Enzymatic spoilage • Spoilage by insects and rodents • Mechanical damage • Effect of spoilage on nutritional quality of food • Definition, care and maintenance of storage equipment's. • Characteristics and storage conditions of food	10
3	Principles and Methods ofFood preservation	• Principles of preservation • Methods of preservation ▪ Asepsis ▪ High temperature-pasteurization, sterilization & canning ▪ Low temperature –cellar storage, Refrigeration or chilling, Freezing methods ▪ Drying& dehydration – Sun drying, shade drying, hot oven drying & Spoilage of dried products of fruits & vegetables ▪ Chemicals ▪ Filtration ▪ Carbonation, Irradiation • Advantages and disadvantages of methods of preservation	15

4	Preservation Canning of fruits and vegetables Beverages	Preservation by • Salts- pickling process, problems in pickle making, preparation of ketchups, problems in preparation of ketchups • Sugar –jams & Jellies preparation • Vinegar, Lactic acid • Principle and process of canning • Beverages and its classification	15
5	Food packaging & labeling	• Definition, Functions of food packaging, Classification • Material used for packaging • Packaging laws and regulations • Labelling, pricing and its methods. • Responsibilities of quality control, Importance of quality standards-BIS,AGMARK,HACCP	9
	Co-curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		**60**

References:

1. Frazier,W.Candwestnoff,D.C (1997) Food Microbiology, Tata McGraw Hill, New Delhi
2. Kalia, N and Sood ,S (1996). Food Preservation and Processing: Kalyani Ludhiana
3. Srivastava, R.P and Kumar, S. (1992) Fruit and Vegetable preservation, Principles and Practice: International Book Distributing Company, Lucknow.
4. ArtiSankhala, RenuMogra and Kusum Babel 2011 Food preservation, Principles and Practice: Agrotech Publishing Academ

SYLLABUS
Semester - IV
DIFFUSION & ADOPTION

Subject Code: HS 410 **Course Code: IV-HS410-14**

Learning outcomes

By the end of the course the students will be able to

- co-1 Understand the essence of communication process in transfer of technology
- co-2 Assess the effectiveness of attributes of innovation in innovation decision making process
- co-3 Identify and differentiate different categories of adopters based on the rate of adoption of technologies
- co-4 Analyze the various roles of change agent in transfer of technology with reference to homestead technologies

S. No	Unit	Content	Hours
1.	Communication	• Concept • Process • Functions • Elements • Models • Types of communication ▪ Based on styles – formal & Informal ▪ Based on means – Verbal, Non-verbal Oral Written • Feed back in communication • Barriers in communication	13
2.	Concepts and elements of diffusion	• Diffusion concept • Elements ▪ Innovation ▪ Communication channels ▪ Time ▪ Social system • Attributes of innovation ▪ Relative advantage ▪ Compatibility ▪ Observability ▪ Trailability ▪ Complexity ▪ Predictability • Innovation decision process (process) • Types of innovation–decisions ▪ Optional ▪ Collective ▪ Authority ▪ Contingent	10
3.	Adoption	• Meaning • Adoption process • 5 stage process • Adopter categories	12

		• Classification & Characteristics of adopte • Factors influencing adoption ▪ Personal ▪ Situational ▪ Social • consequences of adoption ▪ Desirable v/s undesirable ▪ Direct v/s indirect ▪ Anticipated v/s un anticipated • Constraints in adoption of technology • Terms used in diffusion of innovation ▪ Innovation decision period ▪ Rate of adoption ▪ Over adoption ▪ Innovativeness ▪ Dissonance ▪ Rejection • Discontinuance	
4.	Change agent & Opinion leadership	• Opinion leaders Meaning • Hypodermic Needle Model • The Two Step Flow Model • Types & selection of opinion leaders • Rural sociology- rural urban difference • Structure and function of society • Social institutions • Social change- definition, categories & levels • change agent definition • Roles of change agent ▪ Need for change ▪ Information –exchange relationsh ▪ Diagnose the problems ▪ Creates intent to change the client ▪ Translates intent into action ▪ Stabilizes adoption & prevents ▪ discontinuance ▪ achieves terminal relationship • Measuring and Factors in change Agent Success • Role of extension agent in diffusion of technologies	13
5.	Homestead technologies	• Definition • Women access to appropriate technologies • Approaches in transfer of technology ▪ Extension approach ▪ Training approach ▪ Commercial approach • Stages of technology transfer	7

		▪ Research ▪ Technology generation ▪ Technology testing ▪ Technology adaptation ▪ Technology integration ▪ Technology dissemination ▪ Diffusion & adoption • Examples of Home technologies • Characteristics of innovation with special reference to homestead technologies	
6.	Co curricular activities	Project/ writing paper	5
Total			**60**

References

1. Dhama, O.P. and Bhatnagar, O.P. 1987. Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Rogers , E.M. 1983, Diffusion of Innovations, The free press, New York.
3. Dass, R. 1981. Appropriate Technology – Percepts and Practices. Vintage Press Inc., New York.
4. Rayadu, C.S. 1997. Communication. Himalaya Publishing House, Mumbai.
5. Rogers, E.M. and Shoemaker, F.F.1971. Communication of Innovations. The Free Press, New York.

SEMESTER-IV
SYLLABUS

Course Title: Textiles Science **Course IV-HS410-15**
Subject Code: HSC410

By the end of the course the students will be able to

CO-1 Classify and compare general properties of natural, manmade, and synthetic fibers and summarize the manufacturing process of each fibers
CO-2 Judge the different fiber classes and yarns classes by various tests and explain their end uses
CO-3 Acquire skills on tools, equipment, techniques and principles of clothing construction and surface ornamentation
CO-4 Utilize the science of textiles to make right decisions when selecting from the wide range of choices available in the textile market, thus becoming a wise consumer
CO-5 Plan a ward robe by considering socio psychological aspects of clothing for different age groups.

S.No.	Unit	Content	Hours
1.	Fibre	Definition, classification; General fibre properties; Detailed physical, microscopic, biological properties of natural fibres (Cotton, Silk, Wool) and man-made fibres (Acrylic, Polyester, Rayon) minor vegetable fibres and processing and manufacture of all natural and manmade fibres	12
2.	Yarn	Definition, classification; types, Novelty yarns; Fabric – definition, fabric construction-types of woven, non woven and other construction techniques; common types of fabrics available in the market and their suitability for various end users- personal clothing, Home Textiles and fashion Fabrics; Fabric grain – importance, fabric count- yarn count and thread count	8
3.	Clothing Construction	Sewing machine parts, operation and safety; Material Preparation for cutting ; Sewing tools; Clothing construction techniques-temporary and permanent techniques-Basting**;** Seams, Seam Finish; Hems and hem finishes; Fullness; Fasteners; Readymade clothing – fit, sizes, quality, comparison with homemade and tailor made clothes, Basic principles of drafting, flat pattern and draping methods	10
4.	Clothing/Apparel Care and Maintenance of natural and synthetic fabrics	Definition, categories of clothing; Fabric selection for different age groups; Wardrobe planning – definition; organizing existing wardrobe; steps in wardrobe building; fashion accessories, Socio psychological aspects of clothing Stain removal; Laundering and Finishing – need, general principles; Types; agents, Storage of clothes Testing of fibres, yarn and fabric importance of quality control and regional institutes	9

5.	Surface ornamentation of fabrics	Embroidery tools and types Printing – types-stencil, roller and block	6
	Additional Inputs	Assignments, Seminars, Quiz, Group discussions	5
Total Hours			**60**

References

Textiles – Sara Kadolph, Pearson education
Textiles science, Gohl &vilensky
Navneeth kaurVol.I&Vol.II, Dream tech publishing
Refer Care and maintenance of clothing –NoemiaD'souza
Corbman, Bernard P. Textiles: Fiber to Fabric. 6th ed. McGraw-Hill, 1983.

SEMESTER-V
SYLLABUS
COURSE TITLE: BAKERY AND CONFECTIONARY

Subject Code: HSC410 **Course CodeHSC410-16A**

By the end of the course the student will able to

- Co-1 Gain Knowledge In Various Bakery Concepts
- Co-2 Understand Various Flours,Essesential Ingredients And Their Role In Baking
- Co-3 Plan And Prepare Different Types Of Biscuits And Breads
- Co-4 Design & Develop Various Types Of Cake Decoration Techniques
- Co-5 Know About Food Preservatives, Its Types And Uses

S.No.	Units	Content	Hours
1.	Introduction to baking science Tools and machinery used in baking Basic material used in bakery and confectionary	• Bakery concepts • Different types of baked products • Large equipment • Small equipment • Maintenance • Functional classification	10
2.a	Essential ingredients used in bakery	• Flour- selection, properties and specifications • Types of flours- ○ Rice flour ○ Millet flour, corn flour ○ Soya flour ○ Malt and ray flour ○ Potato flour • Soft Wheat • Suitability of flours for bakery product Tests to evaluate flour quality • Rheological prosperities • Ingredients influence physical characteristics of dough • Common dough functionality	10
2.b		• Role of eggs in bakery	3
2.c		• Role of fat in bakery	2
2.d		• Role of sugars in bakery – Types of sugars, crystallization process etc..,	3
2.e		• Leavening agents	2
2.f		• Flavouring agents	2
2.g		• Other ingredients used in bakery	3

3.	Biscuits and Bread	• Role of ingredients in cookies preparation • Techniques of preparation • Faults and remedies • Types of bread • Role of ingredients in bread in baking	6
4.	Cakes	• Different types of cakes • Role of ingredients in cake making • Cake making techniques • Cake faults and causes • General precautions in preparation • Cake decoration	8
5.	Food additives	• Preservatives,Colours,antioxidants,emulsifiers,eic..s	6
	Co curricular activities	Project or paper writing	5
		Total	**45**

References

1. Edmund, B. Bennion; James Steward. Cake Making, G. S. T. Bamford, Leonard Hill Book, London.
2. Kent, N.L. Source for Base Recipes :The Williams-Sonoma Collections, The French Culinary Institute Education Material, Baking with Julia, Bernard Clayton's Book of Breads, Misc. Food Magazines, Food Sites:Aarushi Jain
3. Peter R. Whiteley. Biscuit Manufacture – Fundamentals of Online Production, Elsevier Publishers
4. Fance W. J. and Wragg BH. Up - to - date Bread Making, Maclaren and Sons, London

SEMESTER-V
SYLLABUS

Course Title: **Training and HRD** **Course V-HS410-17A**
Subject Code: HSC410
Learning outcomes
By the end of the course the student will able to

- CO-1Understand the type of trainings used in organizations
- CO-2 Analyze the role of training objectives in planning, designing and evaluation and demonstrate the appropriate training models based on objectives
- CO-3 Use a variuos assessment methods which helps in evaluating the training programs effectiveness
- CO-4 Measures the quality and quantity of the expected behaviour of trainees

S.No.	Unit	Content	Hours
1.	**Training**	• Concept & new concepts in training • Functions • Need • Significance • Features / characteristics • Difference between training and education • Limitations • Training skills	8
2.	**Types and phases of Training**	**Types and phases of Training** Pre-Service training In-service training ○ Induction or orientation training ○ Foundation Training ○ On-the-Job training ○ Promotional training ○ Refresher training • Phases of training process ○ Pre-training ○ Training ○ Post training • Meaning and definition of objectives • Characteristics of good objectives • Types of objectives • Important considerations in • formulating objectives • SMART Roles of trainer	13

3.	**Training methods**	• Interactive lecture • Field trip • Small Group discussion • Brain storming • Panel, • Buzz • Symposium • Syndicate • Case study • Role play • PRA	15
4.	**Designing and conducting training & Evaluation of training**	• Introduction • Role of Training • Steps ○ Need assessment ○ Framing objectives ○ Planning overall schedule of training ○ Planning detailed training sessions ○ Managing training • Evaluation of training • Meaning of evaluation • Types of evaluation ▪ Context evaluation ▪ Process evaluation ▪ Terminal evaluation ▪ Impact evaluation • Methods of evaluation • Pre-post test • Opinion/reaction of participant • Observation • Skill test • Measuring impact Oral evaluation	14
5.	**Introduction to HRD**	• Need • Concept • Outcomes • Functions • Goal of HRD system • Role of training and development in HRD • Approaches to HRD	5
	Co-curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc, any online certificate course	5
Total Hours			**60**

References

1. R P Singh (2000) Management of Training Programmes . Anmol Publications Pvt Ltd. New Delhi

2. J.M.Dewan (1999) Management of Manpower Training a Development. Discovery publishing house, New Delhi

3. T.V.Rao (1996) Human Resource Development Experiences. Interventions Strategies, Sage publications India Pot Ltd. New Delhi

4. P. Lyton, Udai Pareek (2000) Training for Agricultural Transformation. Sage publications India Pvt Ltd, New Delhi.

SEMESTER-V

SYLLABUS

COURSE TITLE - EARLY CHILDHOOD CARE AND EDUCATION
SUBJECT CODE: HS408 COURSE CODE: V-HS410-18B

By the end of the course the students will be able to
CO-1 Know the Basic concepts, objectives of ECCE and its Philosophies.
CO-2 Plan and implement different types of curriculum in an ECCE center
CO-3 Understand and analyse the importance of play activities for different areas of development.
CO-4 Comprehend various types of records and registers.

S.No.	Units	Content	Hours
1.	Introduction to Early Childhood Education and History of ECE in India	• Concept of Early childhood care and education • Need for ECE, ECE centres • Status of ECE - Pre independence period • Status of ECE during Post independence Period- 5 year planning • Objectives of Early Childhood Education • Types of ECE centers • Basic requirements of an ECE center • Philosophies • Montesori • Frobel • Gandhi • Arabindo • Tarabaimodak	10
2.	Curriculum planning in ECE	• Characteristics & principles of curriculum planning • Factors influencing curriculum planning • Types of curriculum ▪ Long term planning ▪ Short term planning: monthly, weekly, daily • Steps in Curriculum Planning	8
3.	Play activities in ECE	• Introduction • Nature of Play • Purpose and functions of play • Values of play • Classification of play: indoor, outdoor	6
4.	Play activities for different areas of development	• Activities to promote gross motor skills, fine motor skills, cognitive skills, socio-emotional skills, language skills • Creative activities	8
5.	Records and Reports	• Introduction • Values/ uses of records • Types of records- maintenance • Techniques of collecting information • Roles & responsibilities and qualities of	8

		ECE teacher • Parent and community participation in ECE • Evaluation of children in ECE	
6.	Co curricular activities	Project/ writing paper	5
TOTAL			**45**

References

1. Agarwal, J.C. (2000). Methods and Materials of Nursery Education. (pp-198-200). New Delhi: DOABA House.
2. Eliason, C., & Jenkins, L. (1990). A practical guide to early child curriculum, 4th edition, (pp.3-6). London: Merril Publishing Company.
3. Grewel, J.S. (1984). ECE, Foundations and Practice (pp.31-57). New Delhi: National Psychological Corporation, Agra.
4. Mohanthy, J., &Mohanthy, B. (2000). Early Childhood Care and Education (pp.104-116). New Delhi: Deep and Deep Publications PVT limited.

SEMESTER-V
SYLLABUS
COURSE TITLE: GENERAL PSYCHOLOGY & COUNSELLING
Subject Code: HS 4010 Course Code: V-HS410-19B

By the end of the course the students must be able to

CO-1 know the concept of psychology and its theories, branches of study
CO-2 Understand and analyse the perspective of psychology to understand human behaviour
CO-3 Enable to understand basic psychological concepts like memory, intelligence etc.
CO-4 Classify various child disabilities and application of counselling skills

S.No.	Units	Content	Hours
1.	Psychology as a science of behaviour	• Psychology: a science and scope • Methods used- observational, experimental, clinical and survey • Branches of psychology – Developmental, social, Abnormal, Educational and organizational psychology • Personality- Definition • Assessment of personality –Tests used • Normal and abnormal personalities • Theories of personality- ➢ Psycho analytical & sexual theory- Freud ➢ Cognitive development theory- Piaget ➢ Psycho Social theory- Erik Erikson ➢ Self-actualization theory- Abraham Maslow ➢ Social Learning theory- Albert Bandura ➢ Trait theories-Raymond cattele and 16PF	10
2	Perception and Attention	• Perception, factors of perception • Object perception and perceptual constancies, organization and perception • Attention – Definition, functions, types, determinants / factors of attention.	4
3	Learning, memory & motivation	• Definition • Theories of learning- classical and operant conditioning- learning by imitation – cognitive learning • Styles of learning • Principles &types of learning • Memory definition • Stages & types of memory • Factors affecting memory • Forgetting- causes	10

		• Memory techniques • Motivation – definition, concept • Characteristics • Theories of motivation – Maslow & two factor theory • Emotion – Definition, components and development of emotion	
4	Intelligence	• Intelligence definition, nature • Factors Affecting Intelligence • Tests of intelligence • Types of intelligence- Extremities of intelligence- sub normal and the gifted • Emotional intelligence- definition • Domains of emotional intelligence • Emotional competence	8
5	Counselling & Guidance Child Disabilities	• Counselling- definition, nature, purpose and goals • Characteristics of counsellor • Counselling process • Counselling skills • Types of disabilities. • Orthopedic impairment- Rheumatoid Arthitis • Cognitive impairment- Mental retardation, slow learners. • Speech disorders- Shuttering, stammering • Specific learning disabilities- Dyslexia, Dysgraphia, Dyscalculia	8
	Co curricular activities	Project/ writing paper	5
TOTAL			**45**

References

(1) Milgard.F.R; Atkinson, R.C. and Atkinson R.L. – Introduction to psychology, Oxford, IBM, 1975.

(2) Baron, R.A. Psychology (2001) (5th edition), Pearson Education Inc., New Delhi.

(3) Feldman, R.S. (1997), Essentials of understanding psychology (3rd Edition) McGraw-Hill Companies. Inc. New York

(4) Parameswaran, E.G. and Beena, C. Invitation to psychology, Hyderabad: Neel Kamal Publications.

SEMESTER-V
SYLLABUS

Course Title: **Tie and Dye** **Code: V-HS410-20C**
Subject Code: HSC410
Learning Outcomes
By the end o f the course the students must be able to
CO-1 Understand various concepts of dyeing and apply tie & dye, bathik, printing etc as surface enrichment techniques of fabrics
CO-2 Acquire skills on different tying techniques used in tie and dye to create trendy patterns
CO-3 Classify dye classes and experiment their methods of application of each dye class.
CO-4 Explain dyeing machinery used at commercial level and identifies the dying defects of dyed goods
CO-5 Asess colour fastness property of fabrics by various tests

S.No		Content	Hours
1	Tie & die	• Introduction • Tools and accessories required for tie-dye: • Suitable fabrics for tie and dye • Preparation of fabric for tie and dye • Techniques of tie and dye • Knotting • Tiny dots • Object resist tying • Pleating • Bundling • Tritic • Spider web • Marbling • dye calculations • precautions while making the dye paste	8
2	Dyes and Dyeing	**Dyes and Dyeing** *Definitions-* ***dye, mordant, dyeing, fastness,*** Adsorption, Absorption, Fixation, Reactivity, Dye uptake, Strike rate, Exhaustion, Substantivity, MLR **Classification of dyes**: Characteristics, method of application, suitability to the textiles, fastness properties 1. **Natural Dyes**: Vegetable Animal, Mineral 2. **Synthetic Dyes**: Direct or Substantive dyes, Vat dyes, Napthol dyes Mordant or Chrome dyes, Acid dyes, Basic dyes, Sulphur dyes, Disperse dyes . **Preparation of material for dyeing** • **Methods of dyeing** • Stock dyeing- solution dyeing, Pigment or dope dyeing • Yarn dyeing • Piece dyeing • Garment dyeing	10

3	Mechanism of dyeing	**Mechanism of dyeing** • Adsorption • Absorption • Fixation **Advanced methods of dyeing** – • Jet dyeing ,vaccume impregnation dyeing, foam dyeing and solvent dyeing	8
4	Dyeing machinery	**Dyeing machinery** • **Machinery used in dyeing** Hank, Jig, Skein, Pad, Winch, Package, Jet • **Identifying dyeing defects**	7
5.	Colour fastness tests	**Colour fastness tests** **Colourfastness tests:Definition and procedure of each tests** 1. Colour fastness to washing 2. Colour fastness to sunlight 3. Colour fastness to rubbing a) Dry rubbing b) Wet rubbing 4. Colour fastness to perspiration	7
	Co curricular activities	Project/ writing paper	5
Total			**45**

Reference

1. Veronika Murphy & Crill R., Tie dyed Textiles of India, Indian Art Series, 1991.
2. Prayag, Textile Finishing & Printing
3. Shenai VA, Textiles dyeing and Printing
4. Corbman B.P. (1983). Textiles- fibre to fabric. McGraw, Singapore
5. Marsh J .T .(1979). An introduction to textile finishing. New Delhi: B.1. Publications

SEMESTER-V

SYLLABUS

COURSE TITLE- RETAIL MARKETING AND MERCHANDIZING

Subject Code: HSC410 **Course Code: V-HS410-21C**

By the end of the course the students will be able to

CO-1 Comprehend the basic concepts of retailing and merchandising
CO-2 Classify various types of retailers based on their features
CO-3 Analyse various sales promotion techniques in influencing consumer buying behaviour
CO-4 Develop skills in visual merchandizing techniques and the the role of the supply chain management strategies in effective retailing

S. No.	Unit	Content	Classes
1.	Retailing and merchandising	• Terminology • Role and responsibilities of a merchandiser • Principles • Concept of merchandising • Merchandising strategy • Process of merchandise planning, merchandising assortment	9
2.	Retailing	• Types of retailers • Trends in retailing and merchandising, Career in retailing • Consumer buying behaviour (CBB) • Types of CBB • Factors influencing CBB	10
3.	Sales promotion	• Techniques for consumers • Advantages & limitations • Product pricing methods • Channels of distribution • Marketing mix	9
4.	Supply Chain Management	• Retail supply chain – definition • Features & benefits • Drivers of retail supply chain • Adding value to supply chain	7
5.	Visual merchandising	• Importance & functions • Elements of display • Types of layouts • Planning for exterior and interior displays	5
	Additional Inputs	Field trips, Projects	5
Total			**45**

References

1. Gini S. Frings (1998) Fashion from concept to consumer, Prentice Hall, USA
2. Stone & Jean, A. Sampler (1985) Fashion Merchandising - 4th edition, McGraw-Hili NY.
3. Barry Berman (1983) Retail Management -A Strategic Approach, Macmillan, NY.
4. Mike Easey, Fashion marketing
5. Madaan K V S, Fundamentals Of Retailing, Mc Graw Hill
6. Rosenau & Wilson, Apparel Merchandising The line starts here, Faichild Publications
7. Ray, Supply Chain Management for Retailing, Mc Graw Hill
8. Diamond, Fashion Retailing: A Multi-Channel Approach, Pearson Education

Course wise Syllabus with Outcomes

B.Sc, Honours Nutrition & Dietetics

SEMESTER- I

SYLLABUS

COURSE TITLE: INTRODUCTION TO FOOD SCIENCE & NUTRITION

SUBJECT CODE: H406 **COURSE CODE: 1N&D-CM-01**

Learning outcomes

By the end of the course the student will able to

CO-1 Acquire basic knowledge on food groups, functions and factors to be considered in planning diets
CO-2 Identify and Classify the role of specific components and Nutrients present in food
CO-3 understands and analyze the nutritional requirements of all age groups including special conditions.
CO-4 Compare and contrast the communicable & non-communicable diseases in terms of diet and lifestyle modifications
CO-5 Remember the role of Research and standards organization of Food Science and Food Technology

S.No.	Unit	Content	Hours
1	Introduction to nutrition	• Introduction to nutrition – Definition of nutrition, nutrients, and Food • My Plate, Food Pyramid and portion size- Definition and Illustration • Functions Of Food – Physiological, Social, Psychological and Emotional. • Factors to influencing food intake ➢ Hedonic factors ➢ Environmental factors ➢ Behavioral factors • Food Groups- Sources and functions of Basic four food groups by ICMR • Inter relationship between Food, nutrition and health	10
2	General Nutrition Classification of Nutrients	• Functional foods and their importance • Antioxidants and its importance • Phytochemical and its role • Anti nutritional factors • Classification of Nutrients ➢ Macronutrients Sources and functions- carbohydrates, proteins & fats ➢ Micronutrients Sources and function-vitamins(Fat soluble and water soluble) & minerals	15
3	Nutrition during Life cycle	• Nutritional requirement for all age groups. • Nutritional requirement during– Pregnancy, Lactation. • Nutritional requirement during Childhood –	15

		Infancy (weaning) and school going. • Nutritional requirements of youngsters- Adolescents and Adults. • Geriatric Nutrition- Physiological changes and nutritional requirement.	
4	Nutrition During Disease	• Classification of Diseases- Communicable and Non-Communicable, mode of transmission. • NON-Communicable diseases-Types, Diet and lifestyle modifications of: Metabolic syndrome- definition ➢ Diabetes. ➢ CVD ➢ Hypertension ➢ Cancer ➢ Jaundice ➢ hepatitis • Communicable diseases- Types, Diet and lifestyle modifications of: ➢ Air borne-Chickenpox, Influenza ➢ Water borne-Cholera, Dysentery ➢ Food borne- Salmonellosis, Botulism • Relation Between Immunity, Health and Nutrition	15
5	Research and standards organization of Food Science and Food Technology-	• Role and Function of the organizations- • Nutritional research organization- ICMR-NIN, NNMB • Food Technology research organization- AFSTI, CFTRI, DFRL, NIFTEM. • Food Standards- FSSAI, AMARK, FPO, MMPO.	15
	Co-curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		75

REFRENCES:

l. Food Facts & Principles by Shakunthalamanay & Shadakhraswamy.
2. Food Science by Srilakshmi , second edition,2002
3.Food science, Chemistry and Experimental foods by M. Swaminathan.
4. Food Science by Norman.N.Potter.
5. Experimental study of Foods by Griswold R.M.

SEMESTER-I
SYLLABUS
COURSE TITLE: HEALTH, HYGIENE & WELLNESS

Course Code: 1 N&D-CM-02 **Subject Code: H406**

Learning outcomes

By the end of the course the student will able to

- CO-1To understand the concept of health and wellness
- CO-2 To analyze the structure, growth and reproduction in various microorganism
- CO-3 To identify various diseases caused by microorganisms and the preventive methods to control the diseases
- CO-4 To recognize the role of yoga and meditation in the management of health and wellness

S.no	Unit	Content	Hours
1	Health & wellness	• Health & wellness – Definition , operational definition, • Concept of • New philosophy of health • Dimension of health - Physical, Social, Emotional, Intellectual, and Spiritual. • Concept and components of wellbeing • Definition or concept of Human Development Index • Factors or determinants ofHealth • Indicators of health- concept of Mortality, Morbidity, Disability	12
2	Classification & Study of Microorganisms	• Classification & Study of Microorganisms- in terms of morphology, Nutrition and Reproduction • Bacteria • Fungi- Mould – black mould structure, nutrition & reproduction • Yeast • Algae – chlamydomonos structure and reproduction • Virus – structure, nutrition and reproduction • Beneficial Applications of Microorganisms in different areas- Food Industry, Agriculture, medicine .	12
3	Mode of infection	• **Terms(only for internal exam):** Infection, Contamination, Infestation, Host, Infectious disease, contagious disease, Communicable disease, Epidemic, Endemic, Sporadic, Pandemic, Exotic & Zoo noses • Infection- sources, • Mode of transmission- direct & indirect • Diseases caused by microorganisms-	12

		Symptoms, etiology, mode of transmission of ➢ Bacterial diseases- Typhoid, Tuberculosis, ➢ Viral Diseases: Influenza &AIDS ➢ Parasite transmitted diseases- Malaria &Dengue	
4	Prevention & Control	• Control of Micro-organisms – Sanitation, Sterilization – dry and wet methods • Disinfection- chemical method. • Immunity- definition & • Types of Immunity- 3. Innate Immunity or Natural or Non-specific Immunity – barriers -Physical, Physiological, cellular and cytokine barrier 4. Acquired Immunity or Adaptive Immunity- a. Active immunity: Natural & artificial B. Passive - Natural & artificial • Immunization schedule • Hygiene - Meaning and importance of personal hygiene • Standard precautions to prevent infections	14
5	Management of Health & Wellness	• Modern lifestyle and hypo-kinetic diseases; prevention and management through Physical exercise • Stress, anxiety, and depression- Definition and concept • Role of Yoga, asanas and meditation in maintaining health and wellness. • Role of sleep-in maintenance of physical and mental health.	15
	Co-curricular activities	Assignments, seminars, quizzes	5
	Total		75

References:

1.Frazier, W. Candwestnoff, D.C (1997) Food Microbiology, Tata McGraw Hill

2 A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India

3.Anna k. Joshua, Microbiology, popular book depot, Madras

4.General Microbiology , 1982, power &Daginawala, Himalaya Publishing House

SEMESTER-II
SYLLABUS

COURSE TITLE: FOOD SCIENCE

SUBJECT CODE:H406 **COURSE CODE: 2N&D-03**

Learning outcomes

By the end of the course the students will able to

CO-1 Understands the principles of different processing techniques(cooking method) in cookery

CO-2 Study and compare the difference between various food groups in terms of their composition, function and nutritive values.

CO-3 Analyses different processing techniques to improve nutritive quality &shelflifeof different foods .

CO-4 Evaluating the role of various foods groups in cookery.

S.No	Unit	Content	Hours
I	A. Introduction to food science	• Functions of food • Selection of food • Factors influencing food selection • Classification of food groups • Methods of cooking- advantages and disadvantages of each method	5
II	A. Cereals and millets	• Structure of grain, • Composition, and nutritive value • Factors affecting gelatinization, gluten formation, • Definitions of retrogradation, syneresis, dextrinisation	5
	B. Pulses	• Composition, nutritive value, uses • Processing, fermentation and germination of pulses, • Toxic factors in pulses	5
III.	A. Milk and milk products	• Composition, nutritive value • Processing- pasteurization, homogenization, freezing • Milk products- fermented & non- fermented	5
	B. Egg	• Egg structure, composition, functions, nutritive value • Forming properties of egg white	3
	C. Meat, fish, chicken	• Composition, nutritive value, • Affects of cooking on color and texture • Factors affecting tenderness	4
IV	A. Nuts & Oil seeds	• Composition, nutritive value • Specific nuts & oilseeds • Toxins- aflatoxins, gossypol	4
	B. Species & Condiments	• Functions • Specific spices and its medicinal values • Role in cookery	4

V	Fruits & vegetables	• Composition, nutritive value • Pigments & its changes during cooking • Browning • Antioxidants	5
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	**5**
	Total		**45**

References

1. B. Srilakshmi - Food Science , New Age International Publishers, fourth edition
2. Swaminathan , M. (1988). Handbook of Food science and Experimental Foods BAPPCO, Bangalore.
3. ShakuntalaManay N, Shadaksharaswamy M (1998). Foods, Facts and principles New age international publishers, New Delhi.

SEMESTER-II
SYLLABUS

Course Title: Food Microbiology **Course Code: 2N&D-04**

Subject Code: H406

Learning outcomes

By the end of the course the student will able to

CO-1 Application of knowledge and skills in various concepts of food microbiology,Staining and bacterial culture

CO -2 Analyze the sources of contaminations and types of spoilage in various foods

CO-3 Identification of beneficial role of microbes in fermented foods

CO-4 Acquire knowledge on Production and application of various microbial enzymes in food industry

S. No.	Unit	Content	Hours
1.	Introduction to microbiology & Staining	• Introduction to food microbiology • History of Microbiology • Definition and Scope of food microbiology. • Applied areas of Microbiology • Types of Staining -1. Simple 2.Gram's • Classification of Culture media.	6
2.	Food Contamination Microbial Growth in Food	• Sources of Food Contamination. • Various Food contamination- ➢ Cereals contamination ➢ Fruits and vegetables ➢ Milk contamination ➢ Meat contamination ➢ Egg contamination • Factors affecting the growth of micro organisms in food- pH , water activity , oxygen availability, temperature and others.	8
3.	Food Spoilage	• Chemical changes due to spoilage • Spoilage in Different Foods ➢ Spoilage of cereals & its products ➢ Spoilage of fruits & vegetables ➢ Spoilage of Milk & Milk products ➢ Spoilage of Meat	8

		➢ Spoilage of poultry & poultry products ➢ Spoilage of Fish & sea products	
4.	Beneficial role of microbes in food	• Fermented Baked preparation • Fermented vegetable Foods • Fermented Dairy products • Economical importance of fermented products • Other uses of microbes in industry	8
5.	Production and application of various microbial enzymes in food industry	• Microorganisms important in food microbiology • Application of amylase in food industry • Application of Invertase food industry • Application of Lipase food industry • Application of lactase food industry	10
	Co curricular activities	Assignment , AV aids preparation,seminar-4, quiz/ group discussion etc	5
	Total		45

References:

1. Frazier, W. Candwestnoff, D.C (1997) Food Microbiology, Tata McGraw Hill, New Delhi
2. A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India Private limited New Delhi -110001
3. Anna k. Joshua, Microbiology, popular book depot, Madras
4. Pelczar and Reid, 1983, Microbiology, Tata McGraw-Hill Publishing Company LTD.
5. R. Ananthanarayanan, C.K.J. Paniker, 2001, Orient Longman Private Limited.
6. Hans G.Schlegel, 2002, 6th edition, Cambridge low price editions
7. General Microbiology , 1982, power & Daginawala, Himalaya Publishing House

Contactus@

homescience.gcwgnt@gmail.com

Call us @

9030502832

9848380965